Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (currently amended) The loop antenna of claim ~~1~~ 46, wherein said at least one phase compensation element comprises a capacitor.

3. (original) The loop antenna of claim 2, wherein a total capacitance of said at least one phase compensation element is configured for tuning a resonant circuit associated with said antenna to a predetermined excitation frequency.

4. (currently amended) The loop antenna of claim ~~1~~ 46, comprising a plurality of said phase compensation elements.

5. (original) The loop antenna of claim 4, wherein said phase compensation elements are equidistantly spaced along said length of said conductor.

6 - 7. (cancelled)

8. (currently amended) The nested loop antenna system of claim [[7]]50, wherein at least one of said first and second plurality of said phase compensation elements comprises a discrete capacitor.

9-10. (cancelled)

11. (currently amended) The nested loop antenna system of claim [[6]]48, wherein a plurality of said phase compensation elements are spaced equidistantly along said first conductor.

12. (cancelled)

13. (currently amended) The nested loop antenna system of claim [[6]]48, wherein said first loop is configured for excitation by an excitation source at a predetermined excitation frequency, said predetermined excitation frequency having an associated wavelength in free space, and wherein said first length of said first loop is greater than $1/10^{th}$ of said wavelength.

14. (original) The nested loop antenna system of claim 13, wherein said first length of said first loop is greater than $1/5^{th}$ of said wavelength.

15. (original) The nested loop antenna system of claim 13, wherein said first length of said first loop is greater than $2/5^{th}$ of said wavelength.

16-17. (cancelled)

18. (original) The nested loop antenna system of claim 13, wherein said second length of said second loop is greater than $1/10^{th}$ of said wavelength.

19. (currently amended) The nested loop antenna system of claim [[6]] 48, wherein said first and second conductors comprise the same material.

20. (currently amended) The nested loop antenna system of claim [[6]] 48, wherein said first and second conductors are connected in series.

21. (currently amended) The nested loop antenna system of claim [[6]] 48, wherein said first and second loops are generally rectangular.

22. (currently amended) The nested loop antenna system of claim [[6]] 48, wherein said at least one phase compensation element comprises a capacitor.

23-24. (cancelled)

25. (currently amended) The method of claim [[24]] 56, wherein said predetermined amount is 5%.

26. (cancelled)

27. (currently amended) The system of claim [[26]] 57, wherein said at least one phase compensation element comprises a capacitor.

28. (currently amended) The system of claim [[26]] 57, said system comprising a plurality of said phase compensation elements disposed along said length of said conductor.

29-30. (cancelled)

31. (currently amended) The system of claim [[30]] 59, wherein at least one of said first and second plurality of said phase compensation elements comprises a discrete capacitor.

32-33. (cancelled)

34. (currently amended) The system of claim [[29]] 58, wherein a plurality of said phase compensation elements are spaced equidistantly along said first conductor.

35. (cancelled)

36. (currently amended) The system of claim [[29]] 58, wherein said first loop is configured for excitation by an excitation source at a predetermined excitation frequency, said predetermined excitation frequency having an associated wavelength in free space, and wherein said first length of said first loop is greater than $1/10^{th}$ of said wavelength.

37. (original) The system of claim 36, wherein said first length of said first loop is greater than $1/5^{th}$ of said wavelength.

38. (original) The system of claim 36, wherein said first length of said first loop is greater than $2/5^{th}$ of said wavelength.

39-40. (cancelled)

41. (original) The system of claim 36, wherein said second length of said second loop is greater than $1/10^{th}$ of said wavelength.

42. (currently amended) The system of claim [[29]] 58, wherein said first and second conductors comprise the same material.

43. (cancelled)

44. (currently amended) The system of claim [[29]] 58, wherein said first and second loops are generally rectangular.

45. (currently amended) The system of claim [[29]] 58 wherein said at least one phase compensation element comprises a capacitor.

46. (new) A loop antenna comprising:

a conductor configured in a loop of one or more turns; and

at least one phase compensation element coupled to said conductor along a length of said conductor to control an excitation current along said length of said conductor such that a maximum excitation current level at a first point along said length of said conductor differs from a minimum excitation current level at a second point along said length of said conductor by less than a predetermined amount.

47. (new) The loop antenna of claim 46, wherein said predetermined amount is 5%.

48. (new) A nested loop antenna system comprising:

a first antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor to control an excitation current along said at least one of said first length of said first conductor and said second length of said second conductor such that a maximum excitation current level at a first point differs from a minimum excitation current level at a second point along said at least one of said first length of said first conductor and said second length of said second conductor by less than a predetermined amount.

49. (new) The nest loop antenna system of claim 48, wherein said predetermined amount is 5%.

50. (new) A nested loop antenna system comprising:

a first antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein a first plurality of said phase compensation elements are disposed along said first conductor, and a second plurality of said phase compensation elements are disposed along said second conductor.

51. (new) A nested loop antenna system comprising:

a first antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein a plurality of said phase compensation elements are spaced equidistantly along said second conductor.

52. (new) A nested loop antenna system comprising:

a first antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein first, second and third ones of phase compensation elements are spaced equidistantly along said second conductor.

53. (new) A nested loop antenna system comprising:

a first antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein first, second and third ones of said phase compensation elements are spaced equidistantly along said first conductor.

54. (new) A nested loop antenna system comprising:

a first antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein said first loop is

configured for excitation by an excitation source at a predetermined excitation frequency, said predetermined excitation frequency having an associated wavelength in free space, and wherein said first length of said first loop is greater than $1/10^{th}$ of said wavelength, and wherein said excitation frequency is 8.2 MHz, said wavelength is 36.6 meters, and said second length is greater than 6.1 meters.

55. (new) A nested loop antenna system comprising:

a first antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein said first loop is configured for excitation by an excitation source at a predetermined excitation frequency, said predetermined excitation frequency having an associated wavelength in free space, and wherein said first length of said first loop is greater than $1/10^{th}$ of said wavelength, and wherein said excitation frequency is 13.56 MHz, said wavelength is 22.12 meters, and said second length is greater than or equal to 4 meters.

56. (new) A method of reducing current variation along a length of a loop antenna, said method comprising:

providing an excitation current to said loop antenna; and

controlling said excitation current along said length of said loop antenna by providing at least one phase compensation element along said length of said loop antenna, wherein said controlling said excitation current comprises controlling said excitation current along said length of said loop antenna such that a maximum excitation current level at a first point along said length of said loop antenna differs from a minimum excitation current level at a second point along said length of said loop antenna by less than a predetermined amount.

57. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a loop antenna, said loop antenna comprising a conductor configured in a loop of one or more turns and at least one phase compensation element coupled to said conductor along a length of said conductor to control an excitation current along said length of said conductor such that a maximum excitation current level at a first point along said length of said conductor differs from a minimum excitation current level at a second point along said length of said conductor by less than a predetermined amount.

58. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor to control an excitation current along said at least one of said first length of said first conductor and said second length of said second conductor such that a maximum excitation current level at a first point differs from a minimum excitation current level at a second point along said at least one of said first length of said first conductor and said second length of said second conductor by less than a predetermined amount.

59. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein a first plurality of

said phase compensation elements are disposed along said first conductor, and a second plurality of said phase compensation elements are disposed along said second conductor.

60. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein a plurality of said phase compensation elements are spaced equidistantly along said second conductor.

61. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein first, second and third ones of said phase compensation elements are spaced equidistantly along said second conductor.

62. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein first, second and third ones of said phase compensation elements are spaced equidistantly along said first conductor.

63. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein said first loop is configured for excitation by an excitation source at a predetermined excitation frequency, said predetermined excitation frequency having an associated wavelength in free space, and wherein said first length of said first loop is greater than $1/10^{th}$ of said wavelength, wherein said excitation frequency is 8.2 MHz, said wavelength is 36.6 meters, and said second length is greater than 6.1 meters.

64. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein said first loop is

configured for excitation by an excitation source at a predetermined excitation frequency, said predetermined excitation frequency having an associated wavelength in free space, and wherein said first length of said first loop is greater than $1/10^{th}$ of said wavelength, wherein said excitation frequency is 13.56 MHz, said wavelength is 22.12 meters, and said second length is greater than or equal to 4 meters.

65. (new) An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor, wherein said first and second conductors are connected in series.